UNIVERSITAS
GADJAH MADA
**Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada
Jaringan Reverse Supply Chain Sampah Anorganik**
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Agrawal, S., Kumar, D., Singh, R. K., & Singh, R. K. (2022). Coordination issues in managing the *reverse supply chain*: a systematic literature review and future research directions. *Benchmarking: An International Journal*, 30(4), 1259–1299. https://doi.org/10.1108/BIJ-08-2021-0467

Ammouriova, M., Bertolini, M., Castañeda Jiménez, J., & Neroni, M. (2022). A heuristic-based simulation for an education process to learn about optimization applications in logistics and transportation. *Mathematics*, *10*(5), 830. https://doi.org/10.3390/math10050830

Arshinder, K., Kanda, A., & Deshmukh, S. G. (2011). A review on supply chain coordination: coordination mechanisms, managing uncertainty and research directions. In T. M. Choi & T. C. E. Cheng (Eds.), *Supply Chain Coordination under Uncertainty* (pp. 39–82). Springer. https://doi.org/10.1007/978-3-642-19257-9_3

Asteria, D., & Herumanu. (2016). Bank sampah sebagai alternatif strategi pengelolaan sampah berbasis masyarakat di Tasikmalaya. *Jurnal Manusia dan Lingkungan*, 23(1), 136–141. https://doi.org/10.22146/jml.18783

Bank Sampah Induk Kota Bandung. (2025, Mei). *Daftar harga beli BSI Mei 2025*. Scribd. https://www.scribd.com/document/895804568/Daftar-Harga-Beli-Bsi-Mei-2025

Bank Sampah Guna Mandiri. (2021). *Daftar harga sampah*. Scribd. https://www.scribd.com/document/549544602/Daftar-Harga-Sampah

Butar Butar, M., & Sanders, D. (2024). *Reverse supply chain* modeling at XYZ recycling company. *Indonesian Journal of Contemporary Multidisciplinary Research (MODERN)*, *3*(1), 169–184. https://journal.formosapublisher.org/index.php/modern/article/download/7886/7876

Cachon, G. P., & Netessine, S. (2006). *Game* theory in supply chain analysis. In *Tutorials in Operations Research: Models, Methods, and Applications for Innovative Decision Making* (pp. 200–233). INFORMS. https://pubsonline.informs.org/doi/pdf/10.1287/educ.1063.0023

Chan, C. K., Man, N., Fang, F., & Campbell, J. F. (2020). Supply chain coordination with reverse logistics: A vendor/recycler-buyer synchronized cycles model. *Omega (United Kingdom)*, *95*. https://doi.org/10.1016/j.omega.2019.07.006

Chen, H., & Ma, H. (2021). The cooperation mechanism of the formal and informal recyclers based on *information sharing*. *Journal of Data, Information and Management*, 3, 209–224. https://doi.org/10.1007/s42488-021-00053-3

UNIVERSITAS
GADJAH MADA
**Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada
Jaringan Reverse Supply Chain Sampah Anorganik**
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

de Brito, M. P., & Dekker, R. (2002). *Reverse logistics: A framework* (ERIM Report Series). Erasmus Research Institute of Management. https://repub.eur.nl/pub/543/feweco20021018095304.pdf

Direktorat Jenderal Kependudukan dan Pencatatan Sipil, Kementerian Dalam Negeri. Data Kependudukan Bersih Semester II Tahun 2025: jumlah penduduk Indonesia 288.315.089 jiwa. Data ini diberitakan secara resmi melalui Kementerian PANRB/InfoPublik

Elmaghraby, W., & Keskinocak, P. (2003). *Dynamic pricing* in the presence of *inventory* considerations: Research overview, current practices, and future directions. *Management Science*, *49*(10), 1287–1309. https://www.semanticscholar.org/paper/*Dynamic*-*Pricing*-in-the-presence-of-*inventory*-and-Elmaghraby-Keskinocak/d3c4876dfaf703bfcbc77184ba0cefe8caff10df

Fleischmann, M., Bloemhof-Ruwaard, J. M., Dekker, R., van der Laan, E., van Nunen, J. A. E. E., & van Wassenhove, L. N. (1997). Quantitative models for reverse logistics: A review. *European Journal of Operational Research*, *103*(1), 1–17. (dirujuk dalam de Brito & Dekker, 2002: https://repub.eur.nl/pub/543/feweco20021018095304.pdf)

Galli, M., Mezzogori, D., Reverberi, D., Romagnoli, G., & Zammori, F. (2021). Experiencing the role of cooperation and competition in operations and supply chain management with a *multiplayer* serious *Game*. In A. Dolgui, A. Bernard, D. Lemoine, G. von Cieminski, & D. Romero (Eds.), *Advances in Production Management Systems (APMS 2021)* (IFIP AICT, Vol. 633, pp. 491–499). Springer. https://doi.org/10.1007/978-3-030-85910-7_52

Gao, W., Li, M., Shi, R., & Gao, S. (2025). Decision-Making and Contract Coordination of Closed-Loop Supply Chain with Dual-Competitive Retail and Recycling Markets. *Systems*, *13*(10), 1–20. https://doi.org/10.3390/systems13100858

Kang, Y., Chen, J., & Wu, D. (2020). Research on *Pricing* and service level strategies of dual channel *reverse supply chain* considering consumer preference in multi-regional situations. *International Journal of*

UNIVERSITAS GADJAH MADA
Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada Jaringan Reverse Supply Chain Sampah Anorganik
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Environmental Research and Public Health, *17*(23), 9143. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7731055/

Kelvin, S., Kristina, H. J., & Jobiliong, E. (2016). Perancangan Sistem Value Chain terhadap Prospek Pengumpulan E-Waste di Bank Sampah. *Jurnal Rekayasa Sistem Industri*, *5*(1), 39. https://doi.org/10.26593/jrsi.v5i1.1912.39-53

Kementerian Lingkungan Hidup/Badan Pengendalian Lingkungan Hidup. *Sistem Informasi Pengelolaan Sampah Nasional (SIPSN): Data Komposisi Sampah Tahun 2025.* https://sampahnasional.kemenlh.go.id/portal-indikatif/data/komposisi-sampah

Kementerian Lingkungan Hidup/Badan Pengendalian Lingkungan Hidup. *Sistem Informasi Pengelolaan Sampah Nasional (SIPSN): Data Sumber Sampah Tahun 2025.* https://sampahnasional.kemenlh.go.id/portal-indikatif/data/sumber-sampah

Kementerian Lingkungan Hidup/Badan Pengendalian Lingkungan Hidup. *Sistem Informasi Pengelolaan Sampah Nasional (SIPSN): Data Timbulan Sampah Tahun 2025.* https://sampahnasional.kemenlh.go.id/portal-indikatif/data/timbulan-sampah

Kementerian Lingkungan Hidup dan Kehutanan. (2021). Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor 14 Tahun 2021 tentang Pengelolaan Sampah pada Bank Sampah (Berita Negara Republik Indonesia Tahun 2021 Nomor 752). https://jdih.kemenkoinfra.go.id/cfind/source/files/permen-lhk/2021pmlhk014.pdf

Kontan. (2023). Petik untung dari pilah sampah. Kontan.co.id. https://industri.kontan.co.id/news/petik-untung-dari-pilah-sampah [lengkapi nama penulis dan tanggal terbit]

Law, A. M., & Kelton, W. D. *Simulation modeling and analysis* (dirujuk dalam Springer, 2021, *Annals of Operations Research* Simulation-based multi-criteria decision making). https://link.springer.com/article/10.1007/s10479-021-04321-8

UNIVERSITAS
GADJAH MADA
**Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada
Jaringan Reverse Supply Chain Sampah Anorganik**
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Lee, H. L., Padmanabhan, V., & Whang, S. (1997). Information distortion in a supply chain: The bullwhip effect. *Management Science*, *43*(4), 546–558. https://doi.org/10.1287/mnsc.43.4.546

Mathiyazhagan, K., Rajak, S., Sampurna Panigrahi, S., Agarwal, V., & Manani, D. (2020). *Reverse supply chain* management in manufacturing industry: a systematic review. *International Journal of Productivity and Performance Management*, 70(4), 859–892. https://doi.org/10.1108/IJPPM-06-2019-0293

Mediana, C., & Susilo, N. (2026, 25 April). Harga plastik naik, peluang emas akselerasi ekonomi sirkular. Kompas. Diakses melalui e-Paper Perpustakaan DPR RI. https://perpustakaan.dpr.go.id/epaper/index/detail/id/20727

Nesheim, I., Szulecka, J., Phoo, M. T., Nøklebye, E., & San, K. M. (2024). Complex waste management in Myanmar: role of the actors, relationships, and social capital. *Environment, Development and Sustainability*, 27(7), 15909–15930. https://doi.org/10.1007/s10668-024-04546-0

Pacheco-Velázquez, E., Arana-Solares, I., Rodriguez-Castelblanco, A., & Ramirez-Echeverri, S. (2026). V-Logistics: An educational *serious Game* for enhancing supply chain decision-making skills. In *[judul volume Springer terkait laboratorium virtual pendidikan]*. Springer. https://doi.org/10.1007/978-981-96-5658-5_3

Paduloh, P., Djatna, T., Sukardi, S., & Muslich, M. (2020). Uncertainty models in *reverse supply chain*: a review. *International Journal of Supply Chain Management*, 9(2), 139–149.

Peffers, K., Tuunanen, T., Rothenberger, M. A., & Chatterjee, S. (2007). A design science research methodology for information systems research. *Journal of Management Information Systems*, *24*(3), 45–77. https://doi.org/10.2753/MIS0742-1222240302

Putri, V. A., & Nuha, H. (2023). Model capacitated maximum covering problem pada pengalokasian collection center di struktur reverse logistic sampah polyethylene terephthalate (Studi kasus: Kota Surabaya). *Jurnal Teknik*

UNIVERSITAS
GADJAH MADA
**Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada
Jaringan Reverse Supply Chain Sampah Anorganik**
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Industri: Jurnal Hasil Penelitian dan Karya Ilmiah dalam Bidang Teknik Industri. https://doi.org/10.24014/jti.v9i2.22780

Riedel, J. C. K. H., & Hauge, J. B. (2011). State of the art of serious *Game*s for business and industry. In *Proceedings of the 17th International Conference on Concurrent Enterprising (ICE 2011)*. Centre for Operations Management (FIR), RWTH Aachen. https://www.semanticscholar.org/paper/State-of-the-art-of-serious-*Game*s-for-business-and-Riedel-Hauge/ac74900dd08c1893074ad9b5638357d096e1d048

Rogers, D. S., & Tibben-Lembke, R. S. (2001). An examination of reverse logistics practices. *Journal of Business Logistics*, *22*(2), 129–148. https://onlinelibrary.wiley.com/doi/abs/10.1002/j.2158-1592.2001.tb00007.x

SCM Globe. (2018). *Multiplayer serious supply chain Game*. https://www.scmglobe.com/*multiplayer*-serious-supply-chain-*Game*/

Simatupang, T. M., & Sridharan, R. (2002). The collaborative supply chain. *The International Journal of Logistics Management*, *13*(1), 15–30. (dirujuk dalam ScienceDirect — Supply chain coordination: Perspectives, empirical studies and research directions: https://www.sciencedirect.com/science/article/abs/pii/S0925527308001904)

Simatupang, T. M., & Sridharan, R. (2005). An integrative framework for supply chain collaboration. *The International Journal of Logistics Management*, *16*(2), 257–274. https://www.emerald.com/insight/content/doi/10.1108/09574090510634548/full/html

Simatupang, T. M., Wright, A. C., & Sridharan, R. (2002). The knowledge of coordination for supply chain integration. *Business Process Management Journal*, *8*(3), 289–308. (dirujuk dalam ResearchGate — Coordination Mechanisms for Supply Chain: A Review: https://www.researchgate.net/publication/353793917_COORDINATION_MECHANISMS_FOR_SUPPLY_CHAIN_A_REVIEW)

UNIVERSITAS
GADJAH MADA
**Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada
Jaringan Reverse Supply Chain Sampah Anorganik**
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

SIPSN. (2025). Sistem Informasi Pengelolaan Sampah Nasional, Kementerian Lingkungan Hidup. https://sampahnasional.kemenlh.go.id/

Susi, T., Johannesson, M., & Backlund, P. (2007). *Serious Games: An overview* (Technical Report HS-IKI-TR-07-001). School of Humanities and Informatics, University of Skövde. https://www.diva-portal.org/smash/get/diva2:2416/fulltext01.pdf

Sharfina, Z., & Santoso, H. B. (2017). An Indonesian adaptation of the System Usability Scale (SUS). In *2016 International Conference on Advanced Computer Science and Information Systems (ICACSIS)* (pp. 145–148). IEEE. https://doi.org/10.1109/ICACSIS.2016.7872776

The Behaviouralist. (2024). *Teaching recycling through gamification: The Waste Game*. https://thebehaviouralist.com/portfolio-item/the-waste-*Game*/

Triana, A. P., & Sembiring, E. (2019). Evaluasi kinerja dan keberlanjutan program bank sampah sebagai salah satu pendekatan dalam pengelolaan sampah dengan konsep 3R. *Jurnal Teknik Lingkungan*, 25(1), 15–28. https://doi.org/10.5614/j.tl.2019.25.1.2

Wang, C., Shi, J., & Wang, K. (2025). *Game* theoretic modeling and optimization of competition and collaboration in dual channel electronic waste supply chains. *Scientific Reports*, *15*(1). https://doi.org/10.1038/s41598-025-27878-x

Widiyanti, F., Astirin, O. P., & Gravitiani, E. (2025). Analisis dampak aspek sosial, ekonomi dan lingkungan dari pengelolaan bank sampah di Kota Madiun. Jurnal Ilmu Lingkungan, 23(2), 567–577. https://doi.org/10.14710/jil.23.2.567-577

Wijewickrama, M. K. C. S., Chileshe, N., Rameezdeen, R., & Ochoa, J. J. (2021). *Information sharing* in reverse logistics supply chain of demolition waste: A systematic literature review. *Journal of Cleaner Production*, *280*, 124359. https://doi.org/10.1016/j.jclepro.2020.124359

Wu, D., Chen, J., Yan, R., & Zhang, R. (2019). *Pricing* strategies in dual-channel *reverse supply chain*s considering fairness concern. *International Journal*

UNIVERSITAS
GADJAH MADA
**Perancangan Serious Game Multiplayer Berbasis Web untuk Simulasi Mekanisme Harga dan Persaingan pada
Jaringan Reverse Supply Chain Sampah Anorganik**
Rahmi Narti Syafitri, Prof. Ir. Anna Maria Sri Asih, S.T., M.M., M.Sc., Ph.D., IPU., ASEAN Eng.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

of Environmental Research and Public Health, *16*(9), 1657. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6540226/

Yandri, P., Budi, S., & Muhyidin, A. (2024). Formulasi dan validasi indikator bank sampah berkelanjutan. *Aspirasi: Jurnal Masalah-Masalah Sosial*, 15(2), 209–228. https://doi.org/10.46807/aspirasi.v15i2.3629

Yusuf, W. (2025, 5 Maret). Pemerintah targetkan bangun 83.451 bank sampah hingga 2029. Metrotvnews.com. https://www.metrotvnews.com/read/KvJCLOgG-pemerintah-targetkan-bangun-83451-bank-sampah-hingga-2029

Zhang, M., Wang, Y., Qian, X., Zhao, J., Nie, Y., & Qian, G. (2023). Competition and price strategies of hazardous waste collection for small and micro enterprises based on dual-channel *reverse supply chain*. *Journal of Cleaner Production*, 380, 135714. https://doi.org/10.1016/j.jclepro.2022.135714

Zhang, X.-Q., & Yuan, X.-G. (2020). Research on closed-loop supply chain with competing retailers under government reward-penalty mechanism and asymmetric information. *Discrete Dynamics in Nature and Society*, *2020*, Article 7587453. https://doi.org/10.1155/2020/7587453

Zheng, H., Li, X., Zhu, X., Huang, Y., Liu, Z., Liu, Y., Liu, J., Li, X., Li, Y., & Li, C. (2022). Impact of Recycler Information Sharing on Supply Chain Performance of Construction and Demolition Waste Resource Utilization. *International Journal of Environmental Research and Public Health*, *19*(7). https://doi.org/10.3390/ijerph19073878